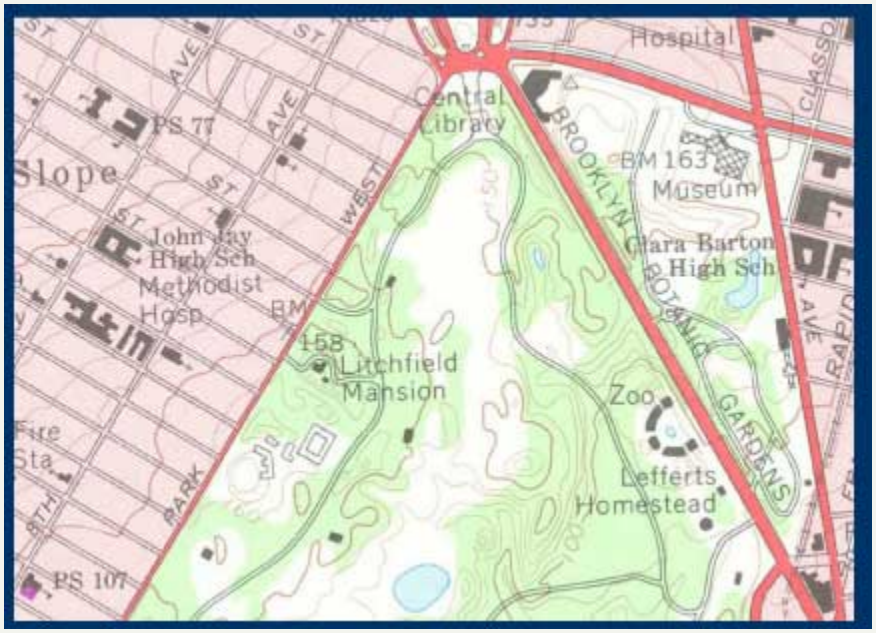
Topographic Maps

WHAT IS A TOPOGRAPHIC MAP?

A topographic map is a very accurate and detailed map of a region. It includes natural features, such as rivers, lakes, valleys, and hills, and human-made features, such as roads, bridges, and buildings.

Here is a topographic map of Prospect Park, Brooklyn, New York.



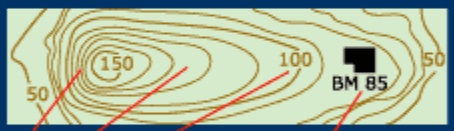
COLORS AND SYMBOLS

To read a topographic map, you need to know what the colors and symbols represent. Vegetation, such as grass and trees, is green. Water, including lakes and rivers, is blue. Contour lines are brown. Towns and cities are pink or gray. Symbols are used to represent features, such as churches and schools. The meanings of symbols are explained in a key, which is sometimes called a legend.

CONTOURS

Topographic maps show the shape or relief of land—where it goes up and down, as in hills or valleys. Contour lines join up places that are the same height—or elevation—above sea level.

The diagram below shows contour lines at every 10-foot change in elevation. Where spacing between contour lines is close, it means the land is steep. Where spacing is wide, the slope is gentle.



steep slope

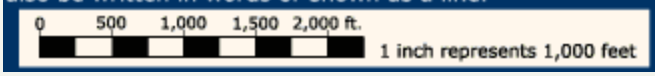
gentle slope

height of contour in feet above sea level

The letters BM followed by a number stands for benchmark. A benchmark on a building or post shows its exact height in feet above sea level.

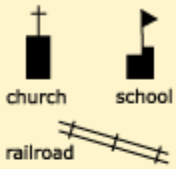
SCALE

The scale of a map indicates how much actual features are shrunk or scaled down. The scale may be expressed as a ratio such as 1:12,000. This means 1 unit of length on the map equals 12,000 units of distance on the ground. The scale may also be written in words or shown as a line.



1 inch represents 1,000 feet

Here are some symbols used on the map above:



Can you find these symbols?

On the topographic map of Prospect Park, there is a contour line at every 10-foot change in elevation. Numbers along the lines show actual elevation (for example, 150, 100).

The scale of the map above is 1:12,000. One inch on the map equals 12,000 inches, or 1,000 feet, on the ground. Or 1 cm on the map equals 12,000 cm, or 120 m on the ground.

USING MAPS
Many different people use topographic maps.

Scientists use topographic maps to study the environment. City planners use the maps to help locate suitable places for buildings, roads, or parks. Aircraft pilots need topographic information for flight planning and navigation. Topographic maps are also used by hikers.

Using the scale and contour lines on a map, you can not only measure how far you have to travel to get from one place to another, but also how far up and down hills you have to go to get there.

Source URL: http://www.usbg.gov/topographic-maps